

S/148/61/000/004/001/008  
E071/E480

A study of the viscosity ...

determined with an electric vibrational viscometer described earlier (Ref.1: G.I.Leskov, G.D.Shevchenko, Zavodskaya laboratoriya, 1956, No.4) which was first calibrated with transformer oil with various additions of colophony. It was established that the viscosity of acid slags increases with increasing silica content (on the average 3 poises per 10% of  $\text{SiO}_2$  within a range of 30 to 50%  $\text{SiO}_2$ ). An increase in the lime content of an acid slag, saturated with silica, causes a small decrease in its viscosity (on average 1.0 poise per 10% of  $\text{CaO}$  in the range 10 to 30%  $\text{CaO}$ ). At a given temperature, the viscosity of slags increases in the course of smelting but decreases if the slag temperature increases during the smelting and thereby the acidic slag becomes reactive before tapping. During the reducing period the viscosity of a basic slag is lower than that of an acid slag. Remelting of slag lowers its viscosity by 25 to 30%. Therefore, on determining the viscosity of works' slag in cooled samples which are subsequently remelted, the influence of remelting should be taken into consideration, i.e. the results obtained should be increased by 25 to 30%. (Abstractor's note: To allow for a decrease in viscosity by 25 to 30%, the correction Card 2/3

S/148/61/000/004/001/008  
E071/E480

A study of the viscosity ...

factor should be (25 to 30) 100/(75 to 70) % = 33 to 43%.)  
There are 5 figures, 1 table and 2 Soviet references.

ASSOCIATION: Ural'skiy politekhnicheskiy institut  
(Ural Polytechnical Institute)

SUBMITTED: March 9, 1960

Card 3/3

*KHOLODOV, A. I.*

HOLODOV, A. I. [Kholodov, A. I.]; IGNATIEV, V. S. [Ignat'yev, V. S.]

Viscosity of the acid electric-steel slag. Analize metalurgie 15  
no.4:54-58 O-D '61.

(Slag) (Steel) (Viscosity)

KHOLODOV, A.I.

"Prospects for the expansion of electrometallurgy" by A.F.  
Kablukovskii, I.A.D. Rozentsveig. Reviewed by A.I. Kholodov.  
Stal' 21 no.8:706-707 Ag '61. (MIRA 14:9)  
(Electrometallurgy)  
(Kablukovskii, A.F.) (Rozentsveig, I.A.D.)

SVENCHANSKIY, A.D.; ARONOV, L.I.; SHEVTSOV, M.A.; ~~MOLODOV, A.I.~~;  
SUCHIL'NIKOV, S.I.; ~~WHITRIK~~, S.I.; CHUYKO, H.M.; ZHERDEV, I.T.;  
SISOYAN, G.A.; KOZLOV, V.S.; KULIKOVSKIY, L.F.; NOVIKOV, O.Ya.

Professor S.I. Tel'nyi. Elektrichestvo no.10:89 0 '60. (MIRA 14:9)  
(Tel'nyi, Stepan Ivanovich, 1890-}

KHOLODOV, A.I.; DOKSHITSKAYA, A.I.; STARTSEVA, G.B.; LEVANTO, M.A.

Some indices of technological conditions for the manufacture of  
transformer steel in electric arc furnaces. Trudy Ural. politekh.  
inst. no.116:102-109 '61. (MIRA 16:6)  
(Steel—Electrometallurgy)

EDNERAL, Fedor Prokopyevich, prof., doktor tekhn. nauk; KHITRIK, S.I., prof., doktor tekhn. nauk, retsenzent; CHUYKO, N.M., prof., doktor tekhn. nauk, retsenzent; KHOLODOV A.I., dots., kand. tekhn. nauk, retsenzent; VENETSKIY, S.I., insh., red.; KARASEV, A.I., tekhn. red.

[Electrometallurgy of steel and ferroalloys] Elektrometallurgii stali i ferrosplavov. Izd.3., ispr. i dop. Moskva, Metallurgizdat, 1963. 640 p. (MIRA 16:8)

(Steel--Electrometallurgy)  
(Iron alloys--Electrometallurgy)

CHIGRINOV, Mikhail Grigor'yevich; KHOLODOV, A.I., kand. tekhn.  
nauk, ratsenzent

[Making electric steel for continuous casting] Vyplavka  
elektrostali dlia nepreryvnoi razlivki. Moskva, Metal-  
lurgiya, 1964. 80 p. (MIRA 18:1)



KHOLODOV, A. M., Engineer

"Dynamics of Three-Roll Road Rollers on the Basis of Their Interaction  
With Ground." Sub 15 Feb 51, Moscow Automobile and Road Inst imeni  
V. M. Molotov

Dissertations presented for science and engineering degrees in  
Moscow during 1951.

SO: Sum. No. 480, 9 May 55

KHOLODOV, A.M., kandidat tekhnicheskikh nauk.

Distributing the weight between the rollers of a two-axle  
motor-driven road roller. Mekh.stroi.12 no.10:14-16 0 '55.  
(Rollers (Earthwork)) (MLRA 9:1)

*KHOLODOV, A. M.*

KHOLODOV, A.M., kand.tekhn.nauk

Modern trends in the development of scraper design. Stroi.i dor.  
mashinostr. 3 no.3:15-17 Mr '58. (MIRA 11:3)  
(Scrapers)

KHOLODOV, A.M.; KONIKOV, A.S.

Organization of training and research work in construction yards. Izv.  
vys.ucheb.zav.; stroi. i arkh. no.5:194-198 ' 58.(MIRA 12:1)

1. Khar'kovskiy avtomobil'no-dorozhnyy institut.  
(Civil engineering--Study and teaching)

KHOLODOV, A. M. kand. tekhn. nauk.

Introducing automatic control of operating processes of excavating machinery. Stroil. i dor. mashinostr. 3 no.9:11-13 S '58.

(MIRA 11:10)

(Automatic control) (Excavating machinery)

KHOLODOV, A.M., kand.tekhn.nauk; DEGTYAREV, V.S., inzh.

Automatic control of motor graders increased labor productivity and improves the quality of work. Stroi. i dor. mashinostr. 5 no.5:10-14 My '40. (MIRA 14:4)

(Automatic control)

(Graders (Earthmoving machinery))

KHOLODOV, A. M., kand. tekhn. nauk

Theoretical and experimental study of the dynamics of earth-movers and haulage vehicles. Sbor. trud. MISI no.39:255-260 '61. (MIRA 16:4)

1. Khar'kovskiy avtomobil'no-dorozhnyy institut.

(Earthmoving machinery)

DEREVYANKO, S.N., inzh.; KHOLODOV, A.M., kand.tekhn.nauk

Automation of the operation of scrapers and bulldozers. Mekh. stroi.  
19 no.6:5-7 Je '62. (MIRA 17:2)



KHOLODOV, A.M.

Testing laboratory for road machinery at the Kharkov Motor-  
Vehicle and Road Construction Institute testing ground. Trudy  
Khar. avt.-dor. inst. no.28:121-124, '62. (MIRA 17:2)

BESEDIN, B.T.; KHOLUDOV, A.M.

Testing the D-443 loader-bulldozer. Trudy Khar. avt.-dor.  
inst. no.28:125-132 '62. (MIRA 17:2)

KHOLODOV, Andrey Mikhaylovich; KRIVSHIN, A.P., kand. tekhn. nauk,  
dots., retsenzent; SAMSONOVA, M.T., red.

[Laboratory manual on road machinery] Praktikum po dorozh-  
nym mashinam. Moskva, Izd-vo "Vysshaia shkola," 1964. 167 p.  
(MIRA 17:7)

K. Kholodov, A.V.

137-1958-1-373

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 58 (USSR)

AUTHOR: Kholodov, A.V.

TITLE: Deoxidation of Steel by the Processes of Physical Chemistry in Electric Arc Furnaces (Fiziko-khimicheskiye raskisleniya stali v dugovykh elektropetchakh)

PERIODICAL: V sb.: Fiz.-khim. osnovy proiz-va stali. Moscow, AN SSSR, 1957, pp 61-73. Diskus., pp 160-187

ABSTRACT: The deoxidation process in steels ShKh 15, 30KhGSA, 45KhNMA, and 45NMFA was studied as they were smelted in electric arc furnaces. The compositions of the steels, slags, and nonmetallic impurities at various times during the melt, and calculation of equilibrium concentrations of Mn, Si, and O<sub>2</sub> are adduced. In rimmed steel [O] is determined by the oxidizing capacity of the slag, temperature and the [C] in the metal. Elevated [Mn] in the steel ( $\geq 0.2\%$ ) does not affect its degree of oxidation and is not a protection against overoxidation. During the first half of the period of reduction, the steel is deoxidized by the C of the carbide slag while, during the second, diffusive, deoxidation plays a subordinate role and precipitative deoxidation occurs through action

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137-1958-1-373

Deoxidation of Steel (cont.)

by Si and Mn. On tapping the steel into the ladle, the [O] is in equilibrium with the slag.

Yu.G.

1. Electric furnaces—Applications 2. Steel—Deoxidation—Test  
results 3. Steel—Production 4. Electric furnaces—Applications

Card 2/2

KHOLODOV, Ivan Mikhaylovich, Geroy Sovetskogo Soyuza, general-mayor  
aviatsii; POLYAKOV, M.V., podpolkovnik, red.; VOLKOVA, V.Ye.,  
tekhn.red.

[Educate by word and deed; a commander's notes] Vospityvat'  
slovom i delom; zametki komandira. Moskva, Voen.isd-vo M-va  
obor.SSSR, 1959. 44 p. (MIRA 12:6)  
(Russia--Armed forces--Education, Nonmilitary)

YASHUNSKIY, V.G.; VASIL'YEVA, V.F.; ~~KHOLODOV, I.Ye.~~; SHCHUKINA, M.N.

Sydnones and sydnone imines. Part 8: Polymethylene-bis-3-sydnone  
imines. Zhur. ob. khim. 32 no.1:192-195 Ja '62. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy  
institut imeni S.Ordzhonikidze,  
(Sydnone imine)

YASHUNSKIY, V.G.; KHOLODOV, L.Ye.

Sydnones and sydnone imines. Part 9: Study of the formation of  
4,4'-dimethylethylene-bis-3-sydnone imine. Zhur.ob.khim. 32  
no.3:865-869 Mr '62. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy  
institut imeni S.Ordashonikidze.  
(Sydnone imine)



YASHUNSKIY, V.G.; KHOLODOV, L.Ye.

Sydnones and sydnone imines. Part 14: Synthesis of  
p-phenylene-bis-3-sydnone and 3-sydnone imine. Zhur.ob.khim.  
32 no.11:3661-3665 N '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy  
institut imeni S. Ordzhonikidze.  
(Sydnone) (Sydnone imine)

YASHUNSKIY, V.G.; FEDOROVICH, V.S.; KHOLODOV, L.Ye.

Synthesis of 3-alkyl sydnone imines. Zhur. VKHO 8 no.5:  
583-584 '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevti-  
cheskiy institut imeni Sergo Ordzhonikidze.

MAYRANOVSKIY, V.G.; KHOLODOV, L.Ye.; YASHUNSKIY, V.G.

Sydnones and sydnone imines. Part 16: Polarographic investigation of sydnone imines. Zhur.ob.khim. 33 no.2:347-353 F '63.  
(MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.  
(Sydnone imine) (Polarography)

KHOLODOV, L.Ye.; YASHUNSKIY, V.G.

Sydnones and sydnone imines. Part 17: Opening of the ring of sydnone imines under the effect of hydrochloric acid. Zhur. ob.khim. 33 no.10:3409-3412 0 '63. (MIRA 16:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.

YASHUNSKIY, V. G.; SAMOYLOVA, O. I.; KHOLODOV, L. Ye.

Sydnones and sydnone imines. Part 21: Salt-forming properties  
of N-acyl derivatives of sydnone imines. Zhur. ob. Khim. 34  
no. 6: 2050-2058 Je '64. (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy  
institut imeni S. Ordzhonikidze.

KHOLODOV, L.Ye.; YASHUNSKIY, V.G.

Syndnones and sydrone iamines. Part 27: Kinetics and mechanism  
of thermal and hydrolytic splitting of syndrone imine chlorides.  
Zhur. ob. khim. 35 no.9:1551-1561 S '65. (MIRA 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy  
institut imeni S.Ordzhonikidze.

KHOLODOV, I.Ye.; ALEKSEYEV, V.V.; YASHUNSKIY, V.G.

Polarography of N-nitroso-N-substituted  $\alpha$ -amino nitriles, initial compounds in the synthesis of sydnone imines. Zhur.fiz.khim. 39 no.7:1566-1571 JI '65. (MIRA 18:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut.

KHOLODOV, L.Ye.; YASHUNSKIY, V.G.

Sydones and sydone imines. Part 28: 4-Aryl-substituted  
sydone imines. Zhur. org. khim. 1 no.11:2063-2068 N '65.

(MIRA 18:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy  
institut imeni S. Ordzhonikidze. Submitted July 27, 1964.



KHOLODOV, L.E.

CZECHOSLOVAKIA

IASHINSKII, V. G.; KHOLODOV, L. E.; SANDILOVA, O. I.

N. Ordzhonikidze All-Union Chemical-Pharmaceutical Scientific Research  
Institute (Vsesoiuznyi Nauchno-Issledovatel'skii Khimiko-Farmatsevt-  
ticheskiy Institut im. S. Ordzhonikidze), Moscow (for all)

Prague, Collection of Czechoslovak Chemical Communications, No 12,  
Dec 1963, pp 4257-4271.

"Sidonones and sidonimines. Part 26: Reaction capabilities of  
3-arylsidonimines."

PEVZNER, Grigoriy Lazarevich; KHOLODOV, M.V., otv.red.; LIBERMAN, S.S.,  
red.izd-va; ANDREYEV, S.P., tekhn.red.

[Mechanized accounting of technical and economic indices in  
metallurgy] Mekhanizatsiia ucheta tekhniko-ekonomicheskikh  
pokazatelei metallurgicheskogo proizvodstva. Khar'kov, Gos.  
nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii,  
1959. 215 p. (MIRA 12:9)

(Machine accounting)

(Punched card systems--Metallurgy)

*KHOLODOV, N.*  
FEDOROV, M., podpolkovnik; KHOLODOV, N., leytenant

Our experience in party and political work at bridging  
operation in winter. Voen.-inzh. zhur. 101 no.1:8-12 Ja '58.  
(MIRA 11:2)

(Communist Party of the Soviet Union--Party work)  
(Pontoon bridges) (Winter warfare)

KHOLODOV, P.

25649. KHOLODOV, P. Bor'ba za rentabel'nost' sotsialisticheskikh predpriyatiy i molodezh'. Molodoy bol'shevik, 1949, No. 15, s.8-18

SO: Letopis' Zhurnal' Nykh Statey, Vol. 34, Moskva, 1949.

KHOLODOV, P.

Building of communism and the problem of accumulations. Vop.  
ekon. no.3:37-48 Mr '62. (MIRA 15:3)  
(Capital)

**KHOLODOV, P.S.**

Standards and procedure for issuing sugar-beet seeds to collective farms. Sakh.prom.30 no.1:36 Ja '56. (MLRA 9:6)

1. Merkenskiy sakharayy savod.  
(Sugar beets)

SKOBTISOV, L.Ya., red.; KHOLODOV, V., red.; SAMOLETOVA, A., tekhn.red.

[New methods prompted by life; experience in the mass political work of party organizations in Stalino Province] Novoe, rozhdennoe zhizn'iu; iz opyta massovo-politicheskoi raboty partiinykh organizatsii Stalinskoi oblasti. Stalino-Donbass, Knizhnoe izd-vo, 1960. 129 p. (MIRA 14:4)

(Stalino Province--Communist Party of the Soviet Union--Party work)

VOLCHENKO, A.V.; MAZYUKOV, A.S.; PAMPENOVA, T.V.; PONOMARENKO,  
G.Ya.; FISKUNOVA, Ye.S.; STUKANOV, Ye.H.; YARMAL', A.I.;  
KHOLODOV, V.G., red.

[The Donets Basin and the Kuznetsk Basin; collection of  
documents on the creative relations between the miners of  
Donets and the Kuznetsk coal basins] Donbass-Kuzbass;  
sbornik dokumentov o tvorcheskikh svyaziakh gorniakov  
Donetskogo i Kuznetskogo ugol'nykh basseinov. Donets,  
Izd-vo "Donbass," 1964. 148 p. (MIRA 18:2)



KHOLODOV, V. N.

AID P - 501

Subject : USSR/Geochemistry

Card 1/2 Pub. 78 - 15/27

Authors : Kartsev, A. A. and Kholodov, V. N.

Title : Geochemistry of the Fergana oil fields

Periodical : Neft. Khoz., v. 32, #6, 52-54, Ju 1954

Abstract : The author describes the irregular effects of mineralization and metamorphization of underground water on the characteristics of oil found in various depths of the Fergana valley. In the Shorsu oil field general mineralization was reported to be maximum in the upper strata and metamorphization in the lower one in contrast with the opinion of other investigators. The above irregularities are accounted for by chemical interaction of oil and water, containing sulfates, excess of sulfur, iron and other components. The geochemical study of oil, water and rocks in Shorsu indicates that the properties of oil

AID P - 501

Neft. Khoz., v. 32, #6, 52-54, Ju 1954

Card 2/2 Pub. 78 - 15/27

are dependent upon the primary causes of initial substance as well as upon secondary factors, chiefly the oxidation processes. 8 Russian references (1940-1951).

Institution : None

Submitted : No date

KHOLODOV, V. N.

15-57-7-9315

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7,  
p 82 (USSR)

AUTHORS: Kondrat'yeva, I. A., Kholodov, V. N.

TITLE: Some Peculiarities in the Formation of Dolomitic Rocks  
in the Turkestan Series of the Paleogene of Fergana  
(O nekotorykh osobennostyakh obrazovaniya dolomitovykh  
porod turkestantskogo yarusy paleogena Fergany)

PERIODICAL: V sb: Vopr. mineralogii osadoch. obrazovaniy, Nr 2,  
L'vov, L'vovsk. un-t, 1955, pp 219-222

ABSTRACT: A significant persistence of layers of dolomite along  
the strike in the Turkestan series of Fergana, as well  
as an observed direct relation between content of clas-  
tic material and quantity of dolomite in the rocks, has  
led to the hypothesis that the magnesium salts in the  
sediments were deposited syngenetically. The following  
varieties of dolomite are distinguished texturally:  
1) organic, 2) organic-oolitic, 3) oolitic, 4) with  
relict textures, and 5) finely crystalline. Each of

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15-57-7-9315

Some Peculiarities in the Formation (Cont.)

these textures corresponds to a definite dolomite content. The greater the content of dolomite, the greater role recrystallization has played, leading to relict and finely crystalline textures. The intensity of secondary processes is determined by the percent of the dolomite content occurring originally in the sediment

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O. I. Zelenova

KHOLODOV, V. N.

USSR/ Geology - Tectonics

Card 1/1 Pub. 46 - 9/21

Authors : Kholodov, V. N.

Title : Regarding the question as to the origin of the sutural-stylolitic seams

Periodical : Izv. AN SSSR, Ser. geol. 20/2, 91 - 99, Mar-Apr 1955

Abstract : A critical survey is presented of the different hypotheses as to the formation of sutural-stylolitic seams. Factual material is presented in support of the epigenic origin of these structures, and the conditions necessary for their formation are discussed. Twenty-one references: 9 German; 6 USA; 6 USSR (1828-1953). Illustrations; diagrams.

Institution : .....

Submitted : March 4, 1954

KHOLODOV, V.N.; KOMAROVA, G.V.; KONDRAT'YEVA, I.A.

The effect of simultaneous folding and sediment deposition on the carbonate-forming process: Article 1. Role of tectonic structures in the formation of facies characteristics of carbonates. Izv.AN SSSR,Ser.geol.21 no.11:39-60 N'56. (MIRA 10:1)

1. Institut geologii rudnykh mestorozhdeniy petrografii, mineralogii i geokhimii Akademii nauk SSSR, Moskva.  
(Carbonates (Mineralogy)) (Geology, Structural)

AUTHOR:

*Kholodov, V. N.*  
Kholodov, V.N.

5-3-8/37

TITLE:

On the Problem of Deformations of Carbonaceous Rocks (K vo-  
prosu o deformatsiyakh karbonatnykh porod)

PERIODICAL:

Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel  
Geologicheskii, 1957, No 3, pp 137-142 (USSR)

ABSTRACT:

The author depicts microbreccias of Paleogene limestones in Central Asia. In natural outcrops of carbonaceous rocks, in drill hole cores and in mine veinlets, lenses and individual sections occur rather often, in which the rock is deprived of its initial structure and is transformed into a structureless mass, characterized by considerable density and homogeneity. These formations are called microbreccias and the rocks enclosing them are called brecciated limestones. A typical sample of microbreccia is shown in Figure 1. The thicknesses of brecciated sections may vary from a few mm to 0.5 m. The thickest zone of microbreccia occurs in the middle part of the layer of organogenous-clastic gastropodous limestones. These rocks show traces of intensive deformations, according to a microscopic study. Analyzing some properties of these breccias, such as their interrelation with enclosing rocks, connection with cleavages,

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On the Problem of Deformations of Carbonaceous Rocks

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000722210017-9

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etc., the author comes to the conclusion that microbreccias of Paleogene limestones are of tectonic origin. The fact that they occur in a large anticline at the Fergana foothills confirms the view that the reason of their origination lies in the process of fold-forming. The article contains 6 photos and 7 references, 6 of which are Russian and one in English.

AVAILABLE:

Library of Congress

Card 2/2

KHOLODOV, V.N.

11-4-3/23

SUBJECT: USSR/Geology

AUTHOR: Kholodov, V.N., Komarova, G.B. and Kondrat'yeva I.A.

TITLE: "About the Influence of Consedimental Folding Process on the Formation of Carbonates." (O vliyanii konsedimentatsionnoy skladchatosti na protsess karbonatobrazovaniya)  
Article 2. "Interrelation of Dolomitization and the Development of Anticlinal Structures". (Svyaz' dolomitoobrazovaniya s razvitiyem antiklinal'nykh struktur).

PERIODICAL: "Izvestiya Akademii Nauk SSSR", Seriya Geologicheskaya, 1957, # 4, pp 33-42, (USSR).

ABSTRACT: In this article are published the results of the second part of a study dealing with the application of a structural facies analysis at the lithological research of carboniferous Paleogene deposits at Fergana. The spatial sequence of the diagenetic dolomitization from the preceding stages is hereby established. Studies of carboniferous rocks of the 1<sub>1</sub> horizon of the Alay layer at the Paleogene strata showed that at the first stage of rock forming consedimental folding strongly affected the chemical composition and the structural properties of sediments. Changes of the composition and the structure of sediments are

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11-4-3/23

TITLE:

"About the Influence of Consedimental Folding Process on the Formation of Carbonates." (O vliyanii konsedimentatsionnoy skladchatosti na protsess karbonatobrazovaniya)  
Article 2. "Interrelation of Dolomitization and the Development of Anticlinal Structures". (Svyaz' dolomitoobrazovaniya s razvitiyem antiklinal'nykh struktur).

identified by a complicated joining process of fold formation and by hydrodynamics. The ever present tendency to smooth elevations on the bottom create more or less distinct differences on various sections of the same stratum with a subsequent forming of certain facies. In due course, the phase of accumulation of carboniferous sediments on the bottom of the basin is not within the realm of influence of consedimental tectonics. Due to set sequences, several diagenetic and epigenetic changes occur within the boundaries of the facies plane, for which the conditions have already been prepared during the preceding phase. Dolomitization is such a follow-up process which will be examined in the following studies. The existing relation between the profile of the bottom of the Alay basin and the distribution of average contents of  $\text{CaMg}(\text{CO}_3)_2$  was stated in the preceding article. It was noted that the constituent parts of the dolomites combined well with the components

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11-4-3/23

**TITLE:**

"About the Influence of Consedimental Folding Process on the Formation of Carbonates." (O vliyanií konsedimentatsionnoy skladchatosti na protsess karbonatobrazovaniya)  
Article 2. "Interrelation of Dolomitization and the Development of Anticlinal Structures". (Svyaz' dolomitoobrazovaniya s razvitiyem antiklinal'nykh struktur).

research has shown that a gradual transition exists between pure limestones and pure dolomites due to a wide range of intermediate varieties. Limestone-dolomite rocks are being classified in 4 basic groups, which are subdivided into 8 groups according to their structure. The formation of dolomites - a poly-stage process - can be subdivided into 3 stages:  
1) Precipitation of magnesium salts from the sea. 2) Redistribution of sediments on the bottom of the basin influenced by tectonic features in conjunction with hydrodynamic processes.  
3) Dolomitization - chronological coincidence of diagenetic and early epigenetic processes. - No unanimity exists in the geologic literature as to the factors regulating dolomitization. The majority of geologists attach a decisive influence to the disintegration of organic substances at the secondary formation of dolomites. V.B. Tatarskiy, who had studied carboniferous rocks in Central Asia, claimed that calcite was formed when

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11-4-3/23

**TITLE:** "About the Influence of Consedimental Folding Process on the Formation of Carbonates." (O vliyanii konsedimentatsionnoy skladchatosti na protsess karbonatobrazovaniya)  
Article 2. "Interrelation of Dolomitization and the Development of Anticlinal Structures". (Svyaz' dolomitoobrazovaniya s razvitiyem antiklinal'nykh struktur).

organic matter was available in small quantities, and dolomite, when organic substances were present in large quantities. While the process of dolomitization depends on the basic concentration of magnesium salts, the distribution in the basin is governed by the anticlinal structure, therefore the diagenetic and even the epigenetic forming of dolomites is interconnected with consedimental folding, and evidencing a certain regularity of this process. Embedded dolomites can be subdivided in 3 groups, closely related with each other genetically: 1) Interpersed dolomites in limestones: 2) Lenses in calcareous dolomites. 3) Layers of calcareous dolomites and dolomites.

The main object of these studies was to show that consedimental folding affected the chemical composition and the structural properties considerably during the process of sedimentation. The article contains 1 chart, 1 table, 1 diagram and 5 photographs.

Card 5/6

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000722210017-9

**TITLE:** "About the Influence of Consedimental Folding Process on the Formation of Carbonates." (O vliyanii konsedimentatsionnoy skladchatosti na protsess karbonatobrazovaniya)  
Article 2. "Interrelation of Dolomitization and the Development of Anticlinal Structures". (Svyaz' dolomitoobrazovaniya s razvitiyem antiklinal'nykh struktur).

The bibliography lists 19 references, of which 18 are Slavic (Russian).

**ASSOCIATION:** Geologic Institute of Metal Deposits, Petrography, Mineralogy, and Geochemistry of the Academy of Sciences, USSR, Moskva.

**PRESENTED BY:**

**SUBMITTED:** February 23, 1956

**AVAILABLE:** At the Library of Congress.

Card 6/6

KHOLODOV, V.N.

Criteria of the primary or secondary origin of bitumens.. Izv. AN SSSR.  
Ser. geol. 25 no.4:76-88 Ap '60. (MIRA 13:11)

1. Institut mineralogii, geokhimii i kristalloghimii redkikh elementov  
AN SSSR, Moskva.  
(Fergana—Bitumen—Geology)

KHOLODOV, V.N.; KORYAKIN, A.S.

Origin of phosphate conglomerate breccias of the Lesser Kara-Tau. Dokl. AN SSR 135 no.2:410-413 N '60. (MIRA 13:11)

1. Predstavleno akademikom N.S.Shatskim.  
(Kara-Tau—Phosphorites)

KHOLODOV, V.N.; LISITSIN, A.K.; KOMAROVA, G.V.; KONDRAT'YEVA, I.A.

Epigenetic zones in uranium ore deposits in oil-bearing carbonite rocks. Izv. AN SSSR. Ser.geol. 26 no.11:50-63 N '61. (MIRA 14:10)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.  
(Uranium ores) (Rocks, Carbonate)

KHOLODOV, V.N.

Some problems of the behavior of rare and trace elements in the  
process of sedimentation. Trudy Inst.min., geokhim.i kristalokhim.-  
red.elem. no.2:19-48 '59. (MIRA 15:4)  
(Trace elements) (Metals, Rare and minor)

SEMENOV, Ye.I.; KHOLODOV, V.N.; BARINSKIY, R.L.

Rare earths in phosphorites. Geokhimiya no.5:434-439 '62.

(MIRA 1607)

1. Institute of Mineralogy, Geochemistry and Crystal Chemistry of  
Rare Elements, U.S.S.R., Moscow.  
(Rare earths) (Phosphorites)

KHOLODOV, V.N.

Rare radioactive elements in phosphorites. Trudy IMGRE no.17:  
67-108 '63. (MIRA 16:11)

VLASOV, K.A., glav. red.[deceased]; KHOLODOV, V.N., kand. geol.-  
miner. nauk, otv. red.

[Rare elements in sedimentary and metamorphic rocks]  
Redkie elementy v osadochnykh i metamorficheskikh po-  
rodakh. Moskva, Nauka, 1964. 201 p. (MIRA 18:1)

1. Akademiya nauk SSSR. Institut mineralogii, geokhimii  
i kristalloghimii redkikh elementov. 2. Chlen-korrespondent  
AN SSSR (for Vlasov).



ZOLOTIN, Yuriy Petrovich; LIPATOV, N.N., kand. tekhn.nauk,  
retsenzent; KUZNETSOV, V.I., inzh., retsenzent; KHOLODOV,  
V.V., inzh., spets. red.; BOGATAYA, L.M., red.; SATAROVA,  
A.M., tekhn. red.

[Circulation cleaning of dairy equipment] TSirkulatsion-  
naya mašina moloch'nogo oborudovaniia. Moskva, Pishcheprom-  
izdat, 1963. 88 p. (MIRA 16:4)  
(Dairy plants--Equipment and supplies)

*Card.*  
KHOLODOV, Yu. A.: ~~Master~~ Biol Sci (diss) -- "On the physiological analysis of  
the effect of a magnetic field on animals". Moscow, 1958. 15 pp (Moscow Order  
of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov, Soil-Biology  
Faculty) 130 copies (KL, No 6, 1959, 130)

KHOLODOV, Yu.A.

Formation of conditioned reflexes in response to light in blinded fish.  
Nauch. dokl. vys. shkoly; biol. nauki no.2:74-77 '58.

(MIRA 11:10)

1. Predstavlena kafedroy fiziologii vysshey nervnoy deyatel'nosti  
Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova.  
(Conditioned response) (Light--Physiological effect)  
(Nervous system--Fishes)

MAKOKINA, S.M.; KHOLODOV, Yu.A.

Conditioned inhibition and conditioned disinhibition in chimpanzees,  
sphinx baboons, and dogs. Zhur.vys.nerv.deiat. 9 no.4:555-560 ~~JI-Ag~~  
'59. (MIRA 12:12)

1. Kafedra fiziologii vysshey nervnoy deyatel'nosti Moskovskogo  
gosudarstvennogo universiteta.  
(REFLEX CONDITIONED)

KHOLODOV, Yu.A.

Simple and complex food-acquiring reflexes in normal fishes and in fishes with forebrain removed. Trudy Inst. vys. nerv. deiat. Ser. fiziol. 5:193-199 '60. (MIRA 13:10)

1. Iz Laboratorii sravnitel'noy fiziologii vysshey nervnoy deyatel'nosti (zav. - L.G. Voronin) instituta vysshey nervnoy deyatel'nosti.

(CONDITIONED RESPONSE)

KHOLODOV, Yu.A.; KRUSHINSKAYA, N.L.; SHURANOVA, Zh.P.; SHCHERBINA, Z.D.

Comparative physiological data on the differentiation of two positive stimuli. Trudy Inst. vys. nerv. deiat. Ser. fiziol. 6:188-194 '61.  
(MIRA 14:12)

1. Iz Laboratorii sravnitel'noy fiziologii vysshey nervnoy deyatel'-nosti, zav. - L.G. Veronin.  
(CONDITIONED RESPONSE)

KHOLODOV, Yu.A., kand.biologicheskikh nauk

Magnetic field is a strange stimulant. Nauka i zhizn' 28  
no.7:78-80 J1 '61.

(MIRA 14:8)

(MAGNETISM--PHYSIOLOGICAL EFFECT)

KHOLODOV, Yu.A.; VEREVKINA, G.L.

Effect of a constant magnetic field on conditioned reflexes in sea fishes. Trudy Belomor.biol.sta.MGU 1:248-255 '62.

(MIRA 14:1)

1. Kafedra fiziologii vysshay nervnoy deyatel'nosti Moskovskogo gosudarstvennogo universiteta.

(Magnetic fields—Physiological effect)

(Conditioned response)

(Fishes—Physiology)



KHOLODOV, Yu.A.; AKHMEDOV, K.B....

Effect of some physical factors on the susceptibility of fishes  
to direct electric current. Trudy Belomor.biol.sta.MGU 1:256-  
261 '62.

(MIRA 16:11)

(Electricity--Physiological effect)

(Fishes--Physiology)

35914  
S/026/62/000/004/004/005  
D036/013

27.5000

AUTHOR: Kholodov, Yu.A., Candidate of Biological Sciences  
TITLE: The effect of an electromagnetic field on the central nervous system  
PERIODICAL: Priroda, no. 4, 1962, 104-105

TEXT: Soviet scientists have widely studied the nonthermal effect of a microwave field of less than  $10 \text{ mw/cm}^2$  on the central nervous system. It was shown that brief action intensifies conditioned reflex responses to various stimuli and prolonged action inhibits them. Sensitivity of man and animals to light, sound and olfactory stimuli is changed. Skin receptors and the digestive and circulatory systems are scarcely changed. Noticeable changes in the biocurrents of the cortex cerebri and in the conditioned reflex activity indicate that the microwave field may directly affect the cortex cerebri and the cortex of cerebral hemispheres. The appearance of slow waves in the biocurrents of the cortex cerebri, inhibition of the reflex activity and the appearance of vegetative reactions show that the field

Card 1/2

The effect of an electromagnetic field ...

S/076/6.100/004/004/005  
1030/01.3

also acts on the diencephalon. Morphological investigations showed reversible structural changes in the cortex cerebri and diencephalon; it is thus assumed that the latter are the most sensitive to microwave fields, although other parts of the nervous system may be affected after prolonged periods. Besides microwave fields, many other, if not all electromagnetic fields may directly affect the central nervous system. The fact that all electromagnetic oscillations, not only those in the visible spectrum, may sometimes be perceived as luminescence, is due to their great effect on the diencephalon, which is closely connected with vision. This similarity of the effect of various oscillations is probably due to their magnetic component. The mechanism of the effect of the electromagnetic field on the central nervous system will be clarified only upon completion of research work now under way in many countries.

ASSOCIATION: Institut vysshey nervnoy deyatel'nosti AN SSSR (Moskva)  
(Institute of Higher Nervous Activity of the AS USSR  
Moscow)

Card 2/2

42057

27.1220

S/219/62/000/011/001/002  
B144/B186

AUTHORS: Kholodov, Yu. A., Yanson, Z. A.

TITLE: Change in the electric activity of the brain cortex of rabbits under the influence of UHF electromagnetic fields. Communication I. Effect of the UHF field on the electroencephalogram of intact rabbits

PERIODICAL: Byulleten' eksperimental'noy biologii i meditsiny, no. 11, 1962, 8 - 12

TEXT: The bioelectric activity of the brain cortex is studied to ascertain the effect of UHF fields of 1000 and 5000 v/m applied for 3 min to 34 and 15 rabbits, respectively. EEG's were recorded before, during and after application of the UHF field on the head. The alterations were most distinct in the optic lobe. With both voltages, the amplitude increased and the frequency diminished. The reaction ratio (number of reactions total number of UHF fields applied) equaled ~47 % and 80 % with UHF fields of 1000 and 5000 v/m, respectively. The correlation coefficient between potential amplitude and frequency was  $0.56 \pm 0.08$ . The amplitude averaged Card 1/2

Change in the electric ...

S/219/62/000/011/001/002  
B144/B186

170 % in the third minute and returned to normal values after 10 - 15 min. The reaction of both amplitude and frequency is strongest in the 1st minute. Two groups could be distinguished from an analysis of the latent period: 82 % of the reactions had a mean latent period of 40 sec and 18 % a latent period of 87 sec. The reactivity of the cortex to light stimuli was studied before, during and after application of 1000 v/m and a statistically significant shortening of the latent period was observed under the effect of the UHF field. The appearance of two types of reaction must still be cleared up. There are 3 figures. ✓

PRESENTED: by N. A. Krayevskiy, Member of the AMS USSR

SUBMITTED: January 23, 1962

Card 2/2

S/219/62/054/009/001/004  
I015/I215

AUTHORS: Livanov, M.N., Khanina, L.M., and Kholodov, Yu. A.

TITLE: A comparative analysis of trophic disorders caused either by denervation or by single local irradiation of an intact or denervated extremity in rabbits

PERIODICAL: Byulleten' eksperimental'noy biologii i meditsiny  
v.54, no. 9, 1962, 42 - 46

TEXT: This is the continuation of previous studies. In 10 rabbits ... denervated extremity was irradiated with 5000r X-rays. In 8 control rabbits an intact extremity was similarly irradiated and in another 7 rabbits an extremity was denervated only. Denervation was achieved by injecting a mixture of 5ml of 0.5% novocain solution and 5ml of 96% alcohol into the sciatic nerve and

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S/219/62/054/009/001/004  
I015/I215

A comparative analysis ...

10 ml of novocain into the muscle tendon sheath. Irradiation of a denervated extremity did not develop dystrophic processes. Trophic disorders following irradiation result from damage to the innervation caused by the ionizing radiation. The appearance of ulcera on the contralateral extremity indicates that the irradiation effect is due to its denervating activity and to another mechanism associated with reflex phenomena. There are 2 tables. ✓

SUBMITTED: October 2, 1961

Card 2/2

KHOLODOV, Yu.A.

Changes in the electric activity of the cerebral cortex of a rabbit during the action of an ultrahigh-frequency electromagnetic field. Report No.2: Direct action of the ultrahigh-frequency field on the central nervous system. Biul. eksp. biol. i med. 56 no.9:42-46 S '63.

(MIRA 17:10)

1. Predstavlena deystvitel'nyy chlenom AMN SSSR P.D. Gorizontovym.



GUSEL'NIKOV, V.Y.; KHOLODOV, Yu.A.

Role of the cerebellum in the conditioned reflex activity of  
fishes. Nauch. dokl. vys. shkoly; biol. nauki no.4:49-55 '64.  
(MIRA 17:12)

1. Rekomendovana kafedroy fiziologii vysshey nervnoy deyatel'nosti  
Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.

TSYPIN, A.B.; KHOLODOV, Yu.A.

Development of conditioned reflex to ionizing radiation in  
fish and rabbits. Radiobiologija 4 no.3:402-408 '64.  
(MIRA 17:11)

ACCESSION NR: AP4015155

S/0219/64/057/002/0098/0101

AUTHOR: Kholodov, Yu. A.

TITLE: Effect of an ultra-high frequency electromagnetic field on the electrical activity of a neuronally isolated region of the cerebral cortex

SOURCE: Byul. eksper. biologii i meditsiny\*, v. 57, no. 2, 1964, 98-101

TOPIC TAGS: bioelectrical activity, cerebral cortex bioelectrical activity, electroencephalogram, electromagnetic field, electromagnetic field EEG response, ultrahigh frequency, ultrahigh frequency magnetic field, cerebral cortex, neuronal isolation, neuronally isolated cerebral cortex

ABSTRACT: In order to determine the role of the cortex in the response of the isolated midbrain and cerebrum to UHF, the author recorded the EEG in non-anesthetized rabbits during exposure to UHF (1000 V/m for 2-3 min., repeated at 20-40 min. intervals) after a 5x15 mm area, 5-8 mm in depth, had been isolated in the sensory-motor area of the cortex by loops of steel and copper wire. Exposure to UHF produced a change in bioelectrical activity, with 52% persistence, which was independent of site (temporal or occipital). In 63% of the cases the amplitude was increased, but in 23% it was decreased and 14% were characterized by the appearance of regular waves at 1-3 cps. Compared to the response to UHF in the intact brain,

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ACCESSION NR: AP4015155

that in a neuronally isolated region showed a shorter latent period (27 sec. compared to 53) and a shorter after-effect (1-5 min. compared to 15-20). "The paper was presented by Acting Member of the AMN SSSR P. D. Gorizontov." Orig. art. has: 2 tables and 2 figures.

ASSOCIATION: none

SUBMITTED: 26May62

DATE ACQ: 12Mar64

ENCL: 00

SUB CODE: AM

NO REF SOV: 008

OTHER: 004

Card 2/2

L 4865-66 EWT(1)/FS(v)-3 DD  
ACCESSION NR: AP5026315

UR/0026/65/000/010/0012/0021  
612.014.42

AUTHOR: Kholodov, Yu. A.

TITLE: Magnetobiology

SOURCE: Priroda, no. 10, 1965, 12-21

TOPIC TAGS: magnetobiology, biomagnetism, magnetic field, biology, magnetism, biophysics

ABSTRACT: The author reviews the history and present status of magnetobiology, a branch of biophysics dealing with the influence of constant magnetic fields on various biological processes. The following areas are discussed: healing effects of magnetic fields; effect of magnetic field on the functions of the organism, growth, and development; orienting influence of magnetic fields (orientation of various organisms in the direction of the earth's magnetic field); and effect of magnetic fields on the nervous system. Although reports dealing with the most diverse biological processes from mitosis to higher nervous activity have been published in recent years, the lack of a theory to account for the primary physi-

Card 1/2

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ACCESSION NR: AP5026315

cochemical mechanism of the action of magnetic fields on biological specimens imparts an empirical character to such studies. Some theories of the biological action of magnetic fields thus far advanced are briefly sketched. It is noted that progress in magnetobiology sheds light not only on the theoretical and practical problems of this small branch of science, but also offers new solutions to some cardinal problems of vital activity. Orig. art. has: 9 figures. [08]

ASSOCIATION: Institute of Higher Nervous Activity and Neurophysiology, AN SSSR, Moscow  
(Institut vysshey nervnoy deyatel'nosti i neyrofiziologii AN SSSR)

SUBMITTED: 00

ENCL: 00

SUB CODE: LS, EM

NO REF SOV: 001

OTHER: 005

ATD PRESS: 4136

OC

Card 2/2

KHOLODOV, Yu.A., kand. biolog. nauk (Moskva)

Biological effect of magnetic fields; a conference in Tomsk.  
Priroda 54 no.9:121-122 S '65. (MIRA 18:9)

L 38429-66 EWT(1) DD

ACC NR: AP5018706

SOURCE CODE: UR/0004/65/000/007/0013/0016

AUTHOR: Kholodov, Yu. (Candidate of biological sciences)

ORG: None

TITLE: Man in magnetic maze

SOURCE: Znaniye - sila, no. 7, 1965, 13-16

TOPIC TAGS: <sup>earth</sup> magnetism, neurology, conditioned reflex, physiology,  
central nervous system, midbrain

ABSTRACT: After a general review of various effects produced by solar, atmospheric and terrestrial magnetic phenomena on man's psychology and behavior, the author discusses the results of his investigations. The investigations were started in 1958 in the Moscow State University (Department of physiology of higher nervous activity) and then continued (since 1958) in the Institute of higher nervous activity and neurophysiology of the Academy of Sciences SSSR. The experiments performed on various animals showed that the magnetic

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L 38429-66

ACC NR: AP5018706

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field delayed conditioned reflexes in fishes and birds. The inhibition of unconditioned reflexes were also observed in experiments with other animals as well as with men. For instance, the men placed in a magnetic field were less sensitive to the action of electric current. Further experiments (with rabbits) and studies of electroencephalograms confirmed Sechenov's discovery (in 1863) that the inhibiting centers are located in the inter-brain area. The author concludes that only the nerve cells of the central nervous system are primarily affected by magnetism. Only afterwards, the affection can perhaps pass to other high metabolic cells. The physiological and psychological processes are briefly discussed and further studies are recommended. Orig. art. has: 3 figures.

SUB CODE: 06 / SUBM DATE: None

Card 2/2

L 22705-66 EWT(1) SCTB DD/OS/JXT(RML)  
 ACC NR: AT6009449 SOURCE CODE: UR/0000/65/000/000/0278/0289  
 AUTHOR: Kholodov, Yu. A. 45  
 ORG: none B+1  
 TITLE: Magnetic field as a stimulus ✓  
 SOURCE: AN SSSR. Nauchnyy sovet po kompleksnoy probleme Kibernetika, Bionika (Bionics). Moscow, Izd-vo Nauka, 1965, 278-289  
 TOPIC TAGS: medical experiment, electromagnetic field, EEG, conditioned reflex, cerebral cortex, neuron  
 ABSTRACT: The effects of an electromagnetic field on physiological reactions were investigated in a series of experiments on fish, frogs, birds, and rabbits. The physiological reactions under study included conditioned reflexes, EEG, motor activity, and sensitivity to electric shock (fish), electric stimuli (pigeons and rabbits), acid (frogs), and light flashes (rabbits). A cobalt magnet, solenoid, or electromagnet with direct current passing through the coils was used to induce an electromagnetic field with an intensity of 1 to 1000 oersteds. In most experiments the field intensity was 100 to 300 oersteds. Duration of

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ACC NR: AT6009449

magnetic field action was 10 to 20 sec for developing conditioned reflexes, several minutes for the recording of EEG or sensitivity to stimuli, and several hours for recording of motor activity. Findings show that in practically all experiments the physiological processes were affected by electromagnetic action. The exceptions are the conditioned reflex experiments with pigeons and rabbits; regardless of the numerous combinations of electromagnetic action with food, electric shock, or electric stimulus, the subjects failed to develop a conditioned reflex. Electromagnetic action lowers conditioned reflex activity and sensitivity to various stimuli, but increases motor activity. With local electromagnetic irradiation (1000 oersteds) of a rabbit's head, EEG changes were marked by an increased number of spindles and slow waves comparable to those observed during sleep. Simultaneous recording of electric activity of the cortex and subcortex formations showed that reactions to an electromagnetic field appear several seconds later. Sometimes the reaction was more marked in the cortex and sometimes in the subcortex formations. Recording of impulse activity of 23 neurons of the cortex optic area in rabbits showed that electromagnetic action does not affect the background activity of the neurons but does increase their reaction to light flashes. With spontaneous EEG activity changing and neuron activity remaining unaffected under electromagnetic action, a hypothesis is advanced stating that the glial brain cells are responsible for these

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ACC NR: AT6009449

reactions. Possibly the biophysical mechanism of the initial effect of magnetic field on an organism may be explained by the chemism changes of the glial cells whose trophic function is generally accepted. The validity of this hypothesis will be tested in experimental studies to follow. Orig. art. has: 6 figures. [06]

SUB CODE: 06/ SUBM DATE: 26Oct65/ ORIG REF: 012/ OTH REF: 010

ATD PRESS: 4229

Card 3/3 BK

ACC NR: AM6026322

Monograph

UR/

Kholodov, YUriy Andreyevich.

Effect of electromagnetic and magnetic fields on central nervous system (Vliyaniye elektromagnitnykh i magnitnykh poley na tsentral'-nuyu nervnuyu sistemu) Moscow, Izd-vo "Nauka," 1966. 282 p. illus., biblio. Errata slip inserted. 2700 copies printed. (At head of title: Akademiya nauk SSSR. Institut vysshey nervnoy deyatel'nosti i neyrofiziologii)

TOPIC TAGS: <sup>electromagnetic</sup>biological effect, microwaves, SHF, UHF, VHF, magnetic field, central nervous system, EEG, rabbit, pigeon, fish, amphibian

PURPOSE AND COVERAGE: The main objective of this study was to determine the physiological effects of an electromagnetic field on the function of the central nervous system using electrophysiological and conditioned-reflex methods. During the study, reactions to various chemical and electrical stimulants were recorded. Different classes of vertebrates were used for experimentation, including fish, birds, and mammals. SHF and UHF fields, as well as a constant magnetic field were used to stimulate nerve receptors. An attempt was made to compare the physiological effects of SHF, microwaves, VHF, and constant magnetic fields. These effects were then compared to reactions obtained from light, sound, heat, and other stimuli.

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UDC: 612.82/83:538.3

ACC NR: AM6026322

The book is intended for use by psychologists and physiologists, as well as university and college students.

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Part I. Electrographic method of studying the effects of electromagnetic fields on the central nervous system -- 10

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Ch. 2. The effect of microwaves on the electrical activity of the rabbit brain -- 71

Ch. 3. The effect of a constant magnetic field on the electrical activity of the rabbit brain -- 101

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Ch. 5. Development of conditioned reflexes to an electromagnetic

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ACC NR: AM6026322

field in rabbits, pigeons, and fish -- 164

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SUB CODE: 06/ SUBM DATE: 31Jan65/ ORIG REF: 310/ OTH REF: 150

Card 3/3

L 08870-57 LWT(1) SCTB DD/GD

ACC NR: AT6036680

SOURCE CODE: UR/0000/66/000/000/0378/0379

AUTHOR: Kholodov, Yu. A. 35

ORG: none

TITLE: Biological effect of magnetic fields <sup>2</sup> [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 378-379

TOPIC TAGS: magnetic field biologic effect, radiation protection, magnetic field, magnetic antiradiation shield

ABSTRACT:

Recent experimental studies have shown that increase in the intensity of a magnetic field—as might occur in creation of a magnetic antiradiation shield around a spacecraft—or decrease in it—for instance, during space travel more than ten Earth radii away—can affect certain biological processes. It was observed that a considerable decrease in the Earth's magnetic field intensity causes retardation of bacterial growth, shortens the life span of rats, and increases the flicker fusion threshold in man. The Earth's magnetic field has an orienting effect on unicellular algae,

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higher plants, insects worms, mollusks, fish, and birds. Furthermore, fluctuations in the Earth's magnetic field are correlated with the number of occupied beds in mental hospitals. 0

Increase in magnetic field intensity causes heightened motor activity, decreased sensitivity to various stimuli, and an increased number of spindles and slow waves in EEG's. Conditioned reflexes in response to an MF (magnetic field) can be developed in fish, but not in pigeons or rabbits. In fact, an MF delays conditioned reflexes in response to light in fish and pigeons. A magnetic field also can alter human visual images during hypnosis or mescaline intoxication.

The reaction of the brain to a magnetic field was characterized by a considerable latent period (several seconds) and a long aftereffect. The electrical reaction of individual neurons to a magnetic field also occurred with a long latent period, which suggests the primary effect of MF on glial formations in the brain.

Morphological studies showed that the first reaction of the brain to an MF is the productive reaction of the glia. Later dystrophic changes in neurons can be detected. Under the prolonged influence of a magnetic field, the most acute necrobiotic changes occur in the testicles, lungs, and

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spleen of mammals. These changes are reversible, although occasionally young male mice died in the magnetic field.

The clearest influence of a magnetic field was observed during functional loads in embryonic tissue, and during senility and illness. Some researchers even use magnetic fields for therapeutic purposes. The general reaction of the organism to a magnetic field consists of a complex interaction between direct and reflected reactions of individual organs and systems. Change in the immunological properties of the organism was noted, together with decrease in the oxygen requirement, retardation of growth, change in leukocyte content, and other changes. Moreover, an MF inhibited the growth of malignancies, caused chromosome aberrations, and disrupted the permeability of the cellular membrane. Experiments showed an MF to have both an inhibiting and a stimulating effect on plant growth. Furthermore, the activity of the enzymes trypsin and carboxydismutase in a test tube increased in a magnetic field. Magnetically treated water also has a biological effect.

Thus the existence of a magnetic-field effect was established on the molecular, cellular, and systemic levels, as well as on the level of the

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ACC NR: A16036680

organism. These data, together with reports of the origin of a magnetic field during some organic functions, indicate that study of the biological effect of the MF may clarify some fundamental properties of biological structures. / [W. A. No. 22; ATD Report 66-116]

SUB CODE: 06,20 / SUBM DATE: 00May66

Cord 4/4

L 26246-66 EEC(k)-2/EWA(h)/EWT(1)/FBD/FCC/EWA(d)/FSS-2 SCTB TT/DD/GN  
 ACC NR: AP6013953 SOURCE CODE: UR/0026/66/000/004/0114/0115

47  
46  
B

AUTHOR: Kholodov, Yu. A. (Candidate of biological sciences; Moscow)

ORG: none

TITLE: Space biology and the magnetic field 2

SOURCE: Priroda, no. 4, 1966, 114-115

TOPIC TAGS: magnetic field, manned spaceflight, magnetobiology

ABSTRACT: In this short review, the author (a prominent researcher in magnetobiology) refers to the work of Beischer, Green, Fremming, Knepton, and Halpern (all American researchers in this field). The use of magnetic fields as a means of protecting spacecraft from ionizing radiations is mentioned in terms of the prolonged exposure of future astronauts/cosmonauts and other biological objects to either very weak or very strong fluxes. It is argued that magnetic fields have been shown to affect organisms up to the primate level strongly under certain conditions. Therefore, it is proposed that on the basis of this and other observations by Soviet researchers it may be expedient to create different magnetic fields for different spacecraft compartments, e.g., intense magnetic fields to stimulate Chlorella growth and terrestrial fields for cosmonauts. The author asserts that studies of the biological effects of magnetic fields cannot be overlooked; studies of the influence of magnetic fields on

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L 26246-66

ACC NR: AP6013953

living processes which are being widely carried out by both Soviet and Western researchers not only will assure the safety of future spaceflights but will open up new areas in terrestrial biology. 17 [CD]

SUB CODE: 06/ SUBM DATE: none/ ATD PRESS: 4243

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L 47544-66 EWT(1) DD

ACC NR: AP6032286

SOURCE CODE: UR/0020/66/170/002/0482/0485

48  
B

AUTHOR: Aleksandrovskaya, M. M.; Kholodov, Yu. A.

ORG: Institute of Higher Nervous Activity and Neurophysiology, Academy of Sciences, SSSR (Institut vysshey nervnoy deyatel'nosti i neyrofiziologii Akademii nauk SSSR)

TITLE: Possible role of neuroglia in the appearance of brain bioelectric reactions to a constant magnetic field

SOURCE: AN SSSR. Doklady, v. 170, no. 2, 1966, 482-485

TOPIC TAGS: UHF, electromagnetic biologic effect, brain biocurrent, bioelectric activity, EEG, glia, neuroglia, neuron, neurology, UHF biologic effect, ultrahigh frequency, electromagnetic field effect, EMF

ABSTRACT: The authors studied the reactions of neurons and glial cells in the brains of rabbits and cats to constant magnetic fields of 200—300 oe acting on the head alone. EEG's and functional tests (reactivity curves) were conducted on the animals, which were killed by aéroembolism or nembutal after 1, 10, and 60—70 hr of exposure for morphological studies of CNS tissue effects. Astrocytes were stained by Cahall's, oligodendrocytes and microglia by Aleksandrovskiy's, and neurons by Nissel's methods. After only 1 hr of exposure, the number of astrocytes and oligodendrocytes had increased and hypertrophy of cell bodies and dendrites was seen. The number of microglia had also increased. Neurons remained intact. Electrical activity of the motor cortex was dominated by slow activity with activity spikes. Increased slow-wave

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activity has also been noted in long-term exposure of salamanders and humans to constant magnetic fields. After 10 hr of exposure, the increased number of glial cells persisted. Acute hyperplasia was seen in astrocytes, as well as perivascular and marginal gliofibrosis with swelling of dendritic oligodendroglia and microglial productive reactions. Neurons suffered regressive changes (swelling and hyperchromatosis). EEG's of rabbits taken after 10-hr exposure were uneven. Slow waves and spikes disappeared from the low-amplitude part of the trace. After 60—70-hr exposure (3 to 7 hr/day) neuroglia showed productive-dystrophic changes with swelling of oligodendrocytes and the appearance of drainage cells. Neural cells also showed dystrophic changes. The morphological picture was that of hypoxic encephalopathy. Low-amplitude fluctuations dominated the electrical activity picture. It is supposed that the increased number of glial elements observed after exposure to a constant magnetic field is due not only to intensified cell division processes (amitotic astrocyte division was seen), but also to changes in the level of metabolism. In addition, microglial cells may migrate from other parts of the brain. A possible connection between neuroglial activity and slow brain bioelectrical processes has been suggested. No direct connection between the glia and spike activity could be established, but there are indications of a connection between the ultraslow rhythms and spiking activity seen in rabbit brains. The connection between inhibition processes and slow rhythms with spike activity appears to be much more tenuous. The relationship between inhibition processes and glial reactions under conditions of exposure to electromagnetic fields is most interesting. It is known that during intoxication, glial reactions are ordinarily accompanied by inhibition, except during physical loading, when they are accompanied by excitation processes. The

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glial reaction alone is therefore not an unambiguous index of the basic nervous processes accompanying them. Thus, the increased number of neuroglia without loss of intact neurons, appearance of slow rhythms in brain bioelectric activity, and increased threshold of light stimulation observed during exposure to constant magnetic fields may reflect various aspects of the appearance of inhibition processes in the CNS. [DP]

SUB CODE: 06/ SUBM DATE: 12Feb66/ ORIG REF: 015/ OTH REF: 005/ ATD PRESS:  
5094

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L 35001-65 EEE(n)/EEE(b)/LMP(t) JD

8/0286/65/000/005/0034/0034

ACCESSION NR: AP5000155

AUTHOR: Paton, B. Ye.; Dudko, D. A.; Medovar, B. I.; Latash, Yu. V.; Maksimovich, B. I.; Shevchenko, A. I.; Stumak, I. M.; Goncharenko, V. P.; Grigor'ev, L. P.; Pashchov, G. K.; Chudin, B. I.; Lutsenko, I. A.; Yartsev, M. A.; Keys, N. V.; Tulin, M. A.; Kapel'ntsev, V. G.; Krivalov, N. T.; Pis'mennov, V. S.; Kholodov, Yu. A.; Byatrov, S. N.; Baidakov, N. E.; Donets, I. D.; Silayev, A. Ya.

TITLE: Method of electroslag casting of ingots. Class 18, No. 168743

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 5, 1965, 34

TOPIC TAGS: ingot casting, ingot electroslag casting, electroslag melting, steel melting, alloy melting, metal melting

ABSTRACT: This Author Certificate introduces a method of electroslag casting of ingots in an open or protective atmosphere or in vacuum, in which slag is first melted in a mold with a nonconsumable or consumable electrode arc or plasma jet. To improve the metal quality and the ingot surface and to raise the yield, the molten metal or, if needed, the slag is poured into the mold through a hollow consumable or nonconsumable electrode (see Fig. 1 of the Enclosure). Orig. art. has: 1 figure. [ND]

Card 1/3

L 35031-65

ACCESSION NR: AP5008155

ASSOCIATION: Chelyabinskii metallurgicheskii zavod (Chelyabinsk Metallurgical Plant)

SUBMITTED: 06Feb69

ENCL: 01

SUB CODE: MM, IS

NO REF SOV: 000

OTHER: 000

ATD PRESS: 3215

Card 2/3

SUKHOVA, M.N.; GVOZDEVA, I.V.; MISNIK, Yu.N.; TETEROVSKAYA, T.O.; BOLOTOVA, T.A.; KHOLODOVA, G.K.; STOROZHEVA, Ye.M.; SAMSONOVA, A.M.; MOSUNOV, V.B.; NESELOVSKAYA, V.K.; GOL'DINA, G.S.; SERAFIMOVA, A.M.; BIRALO, T.I.; VASILENKO, L.N.

Sensitivity to chlorophos, trichlorometaphos, DDT, hexachloro-cyclohexane and polychloropinene in housefly populations following the use of these insecticides for several years. Zhur. mikrobiol., epid. i immun. 42 no.8:7-14 Ag '65. (MIRA 18:9)

1. Tsentral'nyy nauchno-issledovatel'skiy dezinfectsionnyy institut, Moskva, Mytishchinskaya i Tashkentskaya gorodskiy sanitarno-epidemiologicheskkiye stantsii, Tashkentskaya i Minskaya gorodskiy dezinfectsionnyye stantsii i Brestskaya gorodskaya i Brestskaya oblastnaya sanitarno-epidemiologicheskkiye stantsii.

L 3889-66 EWT(1)/EWT(m)/EPF(c)/EWP(t)/EWP(b) IJP(c) JD/WW/JG/GG  
 ACCESSION NR: AP5017488 UR/0368/65/002/006/0481/0488  
 536.3 78  
 69  
 8  
 AUTHORS: Dmitriyev, V. D.; Kholopov, G. K. 55, 44 35, 44  
 TITLE: Spectral emissivity of tungsten in the infrared region of the spectrum 21, 44, 55  
 SOURCE: Zhurnal prikladnoy spektroskopii, v. 2, no. 6, 1965, 481-488  
 TOPIC TAGS: tungsten, emissivity, ir radiation, ir spectrum  
 ABSTRACT: In view of the lack of reliable data on the emissivity of tungsten at wavelengths of 2.7 nm, the authors measured the emissivity of a tungsten ribbon from 1 to 5.1 nm at temperatures 1244--2441K. A comparison method was used, where the comparison source was an absolutely black body at the melting point of gold (1336K), consisting of a graphite cavity heated in an electric oven. The tungsten radiation source was in the form of a vacuum lamp with sapphire window, the filament of which was in the form of a ribbon 1.5 mm wide, 2.5 mm long, and 0.03 mm thick. The measurements were made by alternately applying the radiation from the measured and standard sources to a

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